Claim Amendments

Claims 1-11. (canceled)

12. (currently amended) A method for mixing a fluid, said method comprising:

(a) introducing a fluid into a housing of an apparatus, said apparatus comprising:

(i) a housing having an interior comprising an interior channel with capillary dimensions, said interior channel comprising a plurality of biopolymer features arranged in a predetermined manner on an interior surface thereof,

(ii) an opening at a proximal end of said interior channel,

(iii) a chamber at a distal end of said interior channel,

(iv) a structural member in said interior channel adjacent said distal end, the dimensions of and placement of said structural member being sufficient such that intermittent application of centrifugal force to said interior channel causes movement of said fluid between said interior channel and said chamber, and

(v) a mechanism that intermittently generates centrifugal force on the interior of said housing to cause movement of said fluid in said channel ~~according to Claim 1~~, and

(b) generating intermittent centrifugal force to cause repetitive movement of said fluid between said interior channel and said chamber sufficient to cause mixing of said fluid by agitation.

13. (original) A method according to Claim 12 wherein said intermittent centrifugal force is generated by rotating said mechanism.

14. (currently amended) A method for conducting chemical reactions, said method comprising:

(a) introducing a fluid sample into a housing of an apparatus, said apparatus comprising:

(i) a housing having an interior comprising an interior channel with capillary dimensions, said interior channel comprising a linear array of biopolymer features arranged in a predetermined manner on an interior surface thereof,

(ii) an opening at a proximal end of said interior channel,

(iii) a chamber at a distal end of said interior channel,

(iv) a structural member in said interior channel adjacent said distal end, the dimensions of and placement of said structural member being sufficient such that intermittent application of centrifugal force to said interior channel causes movement of said fluid between said interior channel and said chamber, and

(v) a mechanism that intermittently generates centrifugal force on the interior of said housing to cause movement of said fluid in said channel ~~according to Claim 4~~, and

(b) incubating said fluid sample in said housing under conditions for carrying out said chemical reactions and during said incubation generating intermittent centrifugal force to cause repetitive movement of said fluid sample between said linear array and said chamber sufficient to cause mixing of said fluid sample by agitation.

15. (original) A method according to Claim 14 wherein said intermittent centrifugal force is generated by rotating said housing.

16. (currently amended) A method for conducting hybridization reactions, said method comprising:

(a) introducing a fluid sample into an opening at a proximal end of a housing comprising a linear microarray of biopolymer features for hybridizing to analytes in said sample, said housing having an interior with internal capillary dimensions, a mixing area separate from said linear array at a distal end of said housing and a structural member in said housing adjacent ~~an~~ said distal end, the dimensions of and placement of said structural member being sufficient such that intermittent application of centrifugal force to said housing causes motion of said fluid therein, and

(b) incubating said fluid sample in said housing under conditions for carrying out said hybridization reactions and during said incubation generating intermittent centrifugal force to cause repetitive reciprocal movement of said fluid sample between said linear array and said mixing area such that said fluid sample is mixed by agitation.

17. (original) A method according to Claim 16 wherein said intermittent centrifugal force is generated by rotating said housing.

18. (original) A method according to Claim 16 further comprising, subsequent to said incubation, increasing said centrifugal force sufficient to cause said fluid to exit said interior.

19. (original) A method according to Claim 18 further comprising introducing a wash fluid into said housing and generating intermittent centrifugal force sufficient to cause agitation of said wash fluid but insufficient to cause said wash fluid to exit said housing

20. (original) A method according to Claim 19 further comprising increasing said centrifugal force sufficient to cause said fluid to exit said interior.

21. (original) A method according to Claim 16 further comprising examining said linear array for the results of said hybridization reactions.

22. (original) A method according to Claim 16 wherein said housing is part of a microfluidic system.

23. (original) A method according to Claim 16 wherein said housing is a channel in a microfluidic system.

24. (canceled).

25. (original) A method according to Claim 16 wherein said features are polynucleotides or polypeptides.

26. (previously presented) A method according to Claim 16 wherein said linear microarray comprises more than one thousand features.

27. (original) A method according to Claim 21 comprising forwarding data representing a result obtained from said examining.

28. (original) A method according to Claim 27 wherein the data is transmitted to a remote location.

29. (original) A method according to claim 21 comprising receiving data representing a result of an interrogation obtained by said examining.

30. (new) A method according to Claim 12 wherein said interior channel comprises a linear array of biopolymer features.

31. (new) A method according to Claim 30 wherein said linear array is a linear microarray.

32. (new) A method according to Claim 31 wherein said linear microarray comprises more than one thousand features.

33. (new) A method according to Claim 12 wherein said biopolymer features are polynucleotides or polypeptides.

34. (new) A method according to Claim 12 wherein said method is a method for conducting hybridization reactions.

35. (new) A method according to Claim 14 wherein said linear array is a linear microarray.

36. (new) A method according to Claim 35 wherein said linear microarray comprises more than one thousand features.

37. (new) A method according to Claim 14 wherein said biopolymer features are polynucleotides or polypeptides.

38. (new) A method according to Claim 14 wherein said method is a method for conducting hybridization reactions.